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UNDER 37 CFR 1.116

IN THE US PATENT AND TRADEMARK OFFICE

Janaury 30, 1995

Applicants: Iver E. Anderson, et al.

For : Pb-FREE Sn-Ag-Cu TERNARY EUTECTIC SOLDER

Serial No.: 08/094 854

Group: 3205

Filed : July 20, 1993

Examiner: Knapp

Atty. Docket  
No. ISU Case 340

The Commissioner of Patents and Trademarks  
Washington, D.C. 20231

RESPONSE UNDER 37 CFR 1.116

Dear Sir:

Please amend the above-identified application as follows:

In the Claims

a) Cancel claim 21 without prejudice.

b) Please amend the following claims:

1. (Twice Amended) A Pb-free electrical conductor solder consisting essentially of about 3.5 to about 7.7 weight % Ag, about 1.0 to about 4.0 weight % Cu and the balance essentially Sn wherein Sn is present in an amount of at least about 89 weight % Sn to promote formation of intermetallic compounds that improve solder wettability on the electrical conductor, said solder being free of Ti, V, and Zr.

6. (Twice Amended) A Pb-free electrical conductor solder including a ternary eutectic composition consisting essentially of about 93.6 weight % Sn-about 4.7 weight % Ag-1.7 weight % Cu having a eutectic melting temperature of about 217°C and variants of said ternary eutectic composition wherein the relative concentrations of Sn, Ag, and Cu deviate from said ternary eutectic composition to provide a controlled [melting] liquid plus solid mushy temperature range with a liquidus temperature not exceeding 15°C above said eutectic melting temperature and at least two intermetallic compounds dispersed in a beta Sn matrix wherein one intermetallic compound includes Cu and Sn and another intermetallic compound